CLAIMS

WHAT IS CLAIMED IS:

5   1. A method comprising:

generating a number of inline class-type checks for a site, wherein the number is selected to minimize a cost of the class-type checks at runtime.

2. The method of claim 1, further comprising:

10   generating an out-of-line function call for any class-type checks that are not inlined.

3. The method of claim 1, further comprising:

calculating the number based on a cost of the inline class-type check.

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4. The method of claim 2, further comprising:

calculating the number based on a cost of the out-of-line function.

5. The method of claim 1, further comprising:

20   generating a branch hint for a processor if only one class type is encountered at the site.

6. An apparatus comprising:

means for calculating a number of inline class-type checks to minimize a cost of

25   the class-type checks at runtime; and

means for generating inline code for the number of class-type checks for a site in a method.

7. The apparatus of claim 6, further comprising:

30   means for generating an out-of-line function call for any remaining class-type checks at the site that exceed the number.

8. The apparatus of claim 6, wherein the means for calculating the number further comprises:

    means for calculating the number based on a cost of the inline code, a cost of an out-of-line class-type check, and a number of times the inline code fails.

9. The apparatus of claim 7, further comprising:

    means for dynamically recompiling the method if a number of the out-of-line function calls exceeds a threshold.

10. The apparatus of claim 6, further comprising:

    means for sorting the inline code based on a frequency of the class types.

11. A signal-bearing medium encoded with instructions, wherein the instructions when executed comprise:

    calculating a number of class-type checks;

    generating inline code for the number of class-type checks for a site in a method; and

    generating an out-of-line function call for any remaining class-type checks at the site that are not handled by the inline code.

12. The signal-bearing medium of claim 11, further comprising:

    dynamically recompiling the method if a number of the out-of-line function calls exceeds a threshold.

13. The signal-bearing medium of claim 11, wherein the calculating further comprises:

    calculating the number based on a cost of the inline code, a cost of the out-of-line function call, and a number of times the inline code fails.

14. The signal-bearing medium of claim 11, wherein the calculating further comprises:

calculating the number of class-type checks based on a count of the object types encountered at the site at runtime.

15. The signal-bearing medium of claim 11, further comprising:

5   sorting the inline code based on a frequency of the class types.

16. An electronic device comprising:

a processor; and

a storage device encoded with instructions, wherein the instructions when

10   executed on the processor comprise:

calculating a number of class-type checks that minimizes a cost of

inlining,

generating inline code for the number of the class-type checks for a site in

a method,

15   sorting the inline code based on a frequency of the class types, and

generating an out-of-line function call for any remaining class-type checks

at the site that exceed the number.

17. The electronic device of claim 16, wherein the calculating further comprises:

20   calculating the number based on a cost of the inline code.

18. The electronic device of claim 16, wherein the instructions further comprise.

dynamically recompiling the method if a number of the out-of-line function calls

exceeds a threshold.

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19. The electronic device of claim 16, wherein the calculating further comprises.

calculating the number based on a cost of the out-of-line function call, and a

number of times the inline code fails.

30   20. The electronic device of claim 16, wherein the calculating further comprises.

calculating the number based on a count of the object types encountered at the site at runtime.

21. The electronic device of claim 20, further comprising:

incrementing the count at runtime.